

## MINUTES OF MEETING

SUBJECT: Anaconda proposal for Joint Development Program for Treatment of Spent Potlining.

TIME & PLACE: Montreal, 26 June 1981, '14:30 hrs.

ATTENDING:

ANACONDA	-	Dr. E. L. Cambridge
ALCAN	-	Mr. C. Chamberlain
	-	Mr. J. S. Mutchmor
	-	Mr. S. M. Patterson
	-	Mr. S. T. Solinski

PURPOSE: The meeting was called by Mr. S. M. Patterson to receive and explore Anaconda's proposal for a joint Alcan/Anaconda development program for the treatment of spent potlining.

### ANACONDA'S POSITION:

Dr. Cambridge outlined Anaconda's current positions as follows:

1. Anaconda, like most others in the industry is under pressure from state environmental authorities at both their Seabree and Columbia Falls smelters to improve disposal methods for spent potlining.
2. At Seabree they use a sealed land fill site under state license which has 3 to 4 years capacity remaining trucking and disposal cost exceeds \$2 million per year.
3. At Columbia Falls they use a land fill site with Collection and treatment of run-off.
4. As time goes on disposal sites will become further away with attendant higher costs for trucking and disposal.
5. E.P.A. have classified spent potlining as a hazardous material not suitable for landfill disposal and although they have temporarily suspended this classification Dr. Cambridge felt it will come back on the hazardous disposal list.
6. Dr. Cambridge noted that Moranda have spent \$450,000 to 1981 for concrete storage buildings and forecast a like amount for future storage giving a unit cost of \$80 per S.T. for storage.
7. The Aluminum Producers Assoc. has funded a Batelle study of the gasification of potlining to recover thermal value of carbon in a low grade gas. Alcoa is also said to be working in this area.

8. Anaconda have reviewed available technology and have chosen the Alcan D-Process as most suitable. They have made a preliminary feasibility study of a plant in the Ohio Valley, with a capacity of 80,000 STPA of potlining, including flowsheet, mass balance, heat balance. Estimated Capital Cost was U.S.\$44 million and production of aluminium flouride would be 18,000 S.T. They currently value Aluminium Flouride at approximately US\$950/S.T.
9. The D-Process appeals to Anaconda because it produces aluminium flouride as well as solving the environmental problem. They now purchase their total requirements.
10. Anaconda however see this as a defensive project required to solve a critical environmental problem. Their study suggests "it would not make money" and there would be "no significant return on the investment" in an 80,000 STPA plant.
11. Anaconda have discussed their proposal for an Ohio Valley plant with other Aluminum producers who have expressed general interest in the idea.

#### ANACONDA PROPOSAL FOR JOINT DEVELOPMENT

Dr. Cambridge noted that he was authorized to make the following proposal on behalf of Anaconda:

#### PHASE I - LABORATORY DEVELOPMENT

##### ALCAN

1. Alcan to "open their books" on the D-Process and other applicable technology under protection of secrecy agreement signed by Anaconda.
2. Provide consulting services of senior technical experts as required to transmit technology at no charge except travelling expenses.

##### ANACONDA

1. Carry out laboratory bench scale work to establish reaction parameters.
2. Develop, build and operate a laboratory scale pilot plant to demonstrate the process feasibility including preliminary economic evaluation.
3. Anaconda supplies all staff, facilities and services for this phase which they estimate will require 3 to 4 man years.

.../3

### CONDITIONS

1. Both partners will assign negotiated upper limits on expenditures and the use of Alcan specialists.
2. No money changes banks.
3. Joint ownership of technology developed.
4. Anaconda will manage the work.
5. At end of Phase I the partners are free to terminate or to proceed separately.
6. An agreed escape clause if it is evident the path being followed is not worthwhile.

### PHASE II - PILOT PLANT DEVELOPMENT

#### ALCAN/ANACONDA

If Phase I is judged to be successful a joint Phase II program may be undertaken as follows:

1. Joint development of a major (tonnage) plant to establish equipment and process design under continuous operation.
2. Develop design and cost data for a commercial size plant of about 80,000 STPA in the Ohio Valley.

### CONDITIONS

1. Cost sharing on agreed basis.  
- Could be less than 50%
2. Consider participation by other producers.
3. Work managed by Anaconda.
4. Free use of technology by partners and benefit from sale of patents or licenses in proportion to share of costs.
5. Will not apply for government grants.
6. Anaconda to be licensor of process in U.S.A. Alcan could be licensor outside U.S.A. and of course in Canada. This is because Anaconda has experience for U.S. conditions.
7. Environmental technology must be made available to other aluminum producers at similar fees and conditions.

ALCAN REACTION TO ANACONDA PROPOSAL

1. Proposed a Pre-Phase I Joint Study to review available technology and individual needs and covered under secrecy agreement. Estimated to require six months. Alcans argument was that we should not embark on an expensive program until both companies had some assurance that the specific program, or indeed more than one program had the best chance of success.
2. Anaconda's estimate of 3 to 4 man years for Phase I should be increased to 5 to 6 man years.
3. In both phases we would want to participate in strategic management of the program to assure full use of our considerable know-how and make sure the program meets our needs.

CONCLUSION

This meeting served the purpose of exposing Anaconda's proposal for a Joint Development Program and exploring its major implications. It was agreed that Ancanint would issue draft minutes of this meeting and once agreed to - both companies would decide whether or not the above program - including a Pre Phase I study should be undertaken. If agreed the Pre-Phase I study would be started under terms to be negotiated.

Terms could also be negotiated for the subsequent phases while this study was underway.

SMP:PZ

10 July 1981